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2012

### Nebraska Summary: S907 Challenger MT565D

Nebraska Tractor Test Laboratory

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# SUMMARY OF OECD TEST 2756–NEBRASKA SUMMARY 907

## CHALLENGER MT565D AUTOPOWER VI DIESEL

### 24 SPEED

#### POWER TAKE-OFF PERFORMANCE

Power HP (kW)	Crank shaft speed rpm	Diesel Consumption Gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	D.E.F. Consumption Gal/hr (l/h)	Mean Atmospheric Conditions
<b>MAXIMUM POWER AND FUEL CONSUMPTION</b>						
<b>Rated Engine Speed—(PTO speed—1049 rpm)</b>						
156.8 (116.9)	2098	9.22 (34.92)	0.410 (0.250)	17.00 (3.35)	0.39 (1.47)	
<b>Standard Power Take-off Speed (1000 rpm)</b>						
171.5 (127.9)	2000	9.61 (36.37)	0.391 (0.238)	17.85 (3.52)	0.50 (1.89)	
<b>Maximum Power (1 hour)</b>						
178.6 (133.2)	1950	9.84 (37.25)	0.384 (0.234)	18.15 (3.57)	0.54 (2.03)	

#### VARYING POWER AND FUEL CONSUMPTION

156.8 (116.9)	2098	9.22 (34.92)	0.410 (0.250)	17.00 (3.35)	0.39 (1.47)	Air temperature
133.3 (99.4)	2112	8.19 (31.01)	0.428 (0.261)	16.27 (3.21)	0.32 (1.20)	72°F (22°C)
100.2 (74.7)	2117	6.39 (24.19)	0.445 (0.271)	15.68 (3.09)	0.29 (1.10)	Relative humidity
67.6 (50.4)	2133	4.82 (18.25)	0.498 (0.303)	14.01 (2.76)	0.20 (0.74)	51%
33.7 (25.1)	2140	3.35 (12.69)	0.694 (0.422)	10.05 (1.98)	0.15 (0.55)	Barometer
--	2148	1.99 (7.52)	--	--	--	30.1" Hg (102.0 kPa)

Maximum torque - 593.7 lb.-ft. (805.0 Nm) at 1200 rpm

Maximum torque rise - 51.4%

Torque rise at 1700 engine rpm - 33%

Power increase at 1950 engine rpm - 13.9%

#### DRAWBAR PERFORMANCE

(Unballasted - Front Drive Engaged)

#### FUEL CONSUMPTION CHARACTERISTICS

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Temp. °F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
<b>Maximum Power—11th(3A) Gear</b>									
137.2 (102.3)	10150 (45.2)	5.07 (8.16)	2100	6.7	0.437 (0.266)	15.94 (3.14)	185 (85)	66 (19)	29.8 (101.0)
<b>75% of Pull at Maximum Power—11th(3A) Gear</b>									
105.7 (78.8)	7620 (33.9)	5.20 (8.37)	2132	4.4	0.456 (0.277)	15.28 (3.01)	181 (83)	66 (19)	29.8 (101.0)
<b>50% of Pull at Maximum Power—11th(3A) Gear</b>									
71.5 (53.3)	5085 (22.6)	5.27 (8.48)	2134	3.9	0.500 (0.304)	13.92 (2.74)	181 (83)	66 (19)	29.8 (101.0)
<b>75% of Pull at Reduced Engine Speed—13th(3B) Gear</b>									
105.4 (78.6)	7635 (34.0)	5.18 (8.33)	1777	4.5	0.418 (0.254)	16.65 (3.28)	185 (85)	66 (19)	29.8 (101.0)
<b>50% of Pull at Reduced Engine Speed—13th(3B) Gear</b>									
71.2 (53.1)	5060 (22.5)	5.28 (8.49)	1786	3.6	0.451 (0.274)	15.44 (3.04)	181 (83)	66 (19)	29.8 (101.0)

**Location of tests:** IRSTEA, Centre d'Antony, 1 rue Pierre-Gilles de Gennes CS 10030 Antony, 92163, Cedex, France

**Dates of tests:** September - October, 2012

**Manufacturer:** AGCO S.A. BP 307, Avenue Blaise Pascal, 60026 Beauvais, France

**FUEL and OIL:** Fuel No. 2 Diesel **Specific gravity converted to 60°/60°F (15°/15°C)** 0.838 **Fuel weight** 6.98 lbs/gal (0.836 kg/l) **Diesel Exhaust Fluid (DEF)** 32% aqueous urea solution **DEF weight** 9.10 lbs/gal (1.091 kg/l) **Oil SAE** 15W40 **API service classification** CJ-4 **Transmission and hydraulic lubricant** BP Terrac Tractan 9 15W/40 **Front axle lubricant** BP Terrac Tractan 9 15W/40

**ENGINE:** Make Sisu AGCO Power Diesel **Type** six cylinder vertical with turbocharger and air to air intercooler and SCR (selective catalyst reduction) exhaust treatment **Serial No.** W00405 **Crankshaft** lengthwise **Rated engine speed** 2100 **Bore and stroke** 4.252" x 4.724" (108.0 mm x 120.0 mm) **Compression ratio** 17.4 to 1 **Displacement** 402 cu in (6596 ml) **Starting system** 12 volt **Lubrication** pressure **Air cleaner** two paper elements **Oil filter** one full flow cartridge **Oil cooler** engine coolant heat exchanger for crankcase oil, radiator for hydraulic and transmission oil **Fuel filter** two paper cartridges **Muffler** vertical **Cooling medium** **temperature control** thermostat and variable speed fan

**CHASSIS:** **Type** front wheel assist **Serial No.**

B 069 901 **Tread width** rear 52.8" (1340 mm) to 87.8" (2230 mm) front 52.8" (1340 mm) to 87.8" (2230 mm) **Wheelbase** 117.8" (2993 mm) **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio with partial (6) range operator controlled powershift **Nominal travel speeds mph (km/h)** first 1.03 (1.65) second 1.23 (1.98) third 1.44 (2.32) fourth 1.74 (2.80) fifth 2.04 (3.29) sixth 2.46 (3.96) seventh 2.77 (4.45) eighth 3.32 (5.35) ninth 3.90 (6.28) tenth 4.70 (7.56) eleventh 5.29 (8.52) twelfth 5.52 (8.89) thirteenth 6.37 (10.25) fourteenth 6.65 (10.70) fifteenth 7.48 (12.03) sixteenth 8.99 (14.47) seventeenth 10.58 (17.02) eighteenth 12.02 (19.35) nineteenth 12.73 (20.48) twentieth 14.45 (23.26) twenty-first 16.97 (27.31) twenty-second 20.42 (32.86) twenty-third 24.01 (38.64) twenty-fourth 24.86 (40.00) electronically limited reverse 1.03 (1.65), 1.23 (1.98), 1.44 (2.32), 1.74 (2.80), 2.04 (3.29), 2.46 (3.96), 2.77 (4.45), 3.32 (5.35), 3.90 (6.28), 4.70 (7.56), 5.29 (8.52), 5.52 (8.89), 6.37 (10.25), 6.65 (10.70), 7.48 (12.03), 8.99 (14.47) 10.58 (17.02), 12.02 (19.35), 12.73 (20.48), 14.45 (23.26), 16.97 (27.31), 20.42 (32.86), 24.01 (38.64), 24.86 (40.00) electronically limited

**DRAWBAR PERFORMANCE**  
**(Unballasted - Front Drive Engaged)**  
**MAXIMUM POWER IN SELECTED GEARS**

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr (kg/kW.h)	Consumption Hp.hr/gal (kW.h/l)	Temp. °F(°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
6th(1F) Gear									
89.4 (66.7)	15310 (68.1)	2.19 (3.53)	2119	14.8	0.536 (0.326)	12.99 (2.56)	181 (83)	63 (17)	29.8 (101.0)
7th(2A) Gear									
100.6 (75.0)	15105 (67.2)	2.50 (4.02)	2111	13.6	0.493 (0.300)	14.11 (2.78)	181 (83)	63 (17)	29.8 (101.0)
8th(2B) Gear									
116.4 (86.8)	14655 (65.2)	2.98 (4.80)	2064	11.4	0.459 (0.279)	15.18 (2.99)	181 (83)	63 (17)	29.8 (101.0)
9th(2C) Gear									
124.4 (92.8)	13715 (61.0)	3.40 (5.48)	1980	10.4	0.440 (0.267)	15.85 (3.12)	181 (83)	64 (18)	29.8 (101.0)
10th(2D) Gear									
139.9 (104.3)	12905 (57.4)	4.06 (6.54)	1952	9.5	0.423 (0.257)	16.47 (3.24)	185 (85)	66 (19)	29.8 (101.0)
11th(3A) Gear									
154.2 (115.0)	12600 (56.1)	4.60 (7.40)	1962	8.6	0.413 (0.251)	16.85 (3.32)	185 (85)	66 (19)	29.8 (101.0)
12th(2E) Gear									
149.8 (111.7)	11665 (51.9)	4.82 (7.75)	1957	8.0	0.428 (0.260)	16.29 (3.21)	187 (86)	66 (19)	29.8 (101.0)
13th(3B) Gear									
154.4 (115.1)	10340 (46.0)	5.60 (9.01)	1951	7.2	0.415 (0.252)	16.80 (3.31)	187 (86)	66 (19)	29.8 (101.0)
14th(2F) Gear									
151.7 (113.1)	9735 (43.3)	5.84 (9.40)	1946	6.4	0.419 (0.255)	16.60 (3.27)	185 (85)	66 (19)	29.8 (101.0)
15th(3C) Gear									
154.4 (115.1)	8740 (38.9)	6.63 (10.67)	1947	5.3	0.413 (0.251)	16.85 (3.32)	187 (86)	66 (19)	29.8 (101.0)
16th(3D) Gear									
153.4 (114.4)	7180 (31.9)	8.01 (12.89)	1947	4.5	0.421 (0.256)	16.55 (3.26)	189 (87)	66 (19)	29.8 (101.0)
17th(3E) Gear									
150.7 (112.4)	5935 (26.4)	9.52 (15.32)	1953	3.7	0.429 (0.261)	16.24 (3.20)	189 (87)	66 (19)	29.8 (101.0)

**Clutch** multiple wet disc operated by foot pedal  
**Brakes** multiple wet disc hydraulically operated by two foot pedals that can be locked together  
**Steering** hydrostatic **Power take-off** 540 rpm at 1890 engine rpm or 1000 rpm at 2050 engine rpm  
**Unladen tractor mass** 17690 lb (8025 kg)

**REPAIRS AND ADJUSTMENTS:** No repairs or adjustments.

**NOTE:** The data on this summary was obtained from OECD report 2756 conducted on the Massey Ferguson 7620 Dyna 6 Diesel.

**REMARKS:** All test results were determined from observed data obtained in accordance with official OECD test procedures. This tractor did not meet the manufacturer's claims of 54% torque rise nor 15% power bulge. The manufacturer's remote hydraulic flow claim of 39 GPM (150 lpm) for optional pump was not verified. The performance figures on this summary were taken from a test conducted under the OECD Code 2 test procedure.

We, the undersigned, certify that this is a true summary of data from OECD Report No. **2756**, Nebraska Summary 907, January 23, 2014.

Roger M. Hoy  
Director

M.F. Kocher  
J.D. Luck  
P.J. Jasa  
Board of Tractor Test Engineers

TRACTOR SOUND LEVEL WITH CAB	Front wheel drive	
	Engaged dB(A)	Disengaged dB(A)
At no load in 10th (2D) gear	69.0	68.0
Bystander		--

**TIRES, BALLAST AND WEIGHT**

**Rear Tires** - No., size, ply & psi(kPa)  
**Front Tires** - No., size, ply & psi(kPa)  
**Height of Drawbar**  
**Static Weight with operator** - Rear  
- Front  
- Total

**Tested without ballast**

Two 620/70R42;\*\*,14(100)  
Two 480/70R30;\*\*,16(110)  
22.4 in (570 mm)  
10205 lb (4630 kg)  
7650 lb (3470 kg)  
17855 lb (8100 kg)

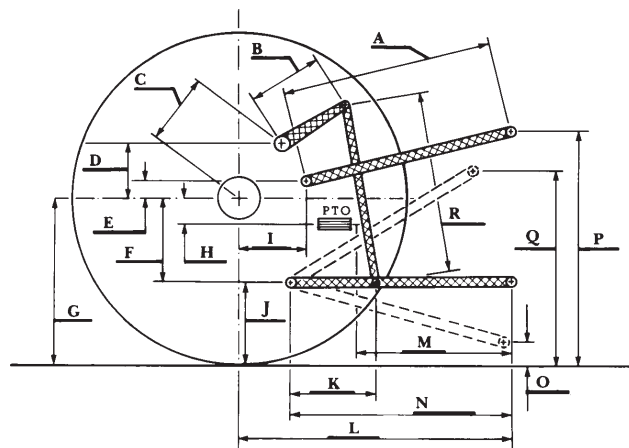
## HYDRAULIC PERFORMANCE

CATEGORY: III

Quick Attach: None

OECD Static test

- Maximum force exerted through whole range: 14410 lbs (64.1 kN)
- i) Sustained pressure of the open relief valve: 2760 psi (190 bar)  
two outlet sets combined
- ii) Pump delivery rate at minimum pressure: 29.7 GPM (112.6 l/min)
- iii) Pump delivery rate at maximum
- hydraulic power: 26.7 GPM (100.9 l/min)
- Delivery pressure: 2220 psi (153 bar)
- Power: 34.5 HP (25.7 kW)  
single outlet set
- ii) Pump delivery rate at minimum pressure: 27.1 GPM (102.7 l/min)
- iii) Pump delivery rate at maximum
- hydraulic power: 23.9 GPM (90.5 l/min)
- Delivery pressure: 2005 psi (138 bar)
- Power: 28.0 HP (20.9 kW)



**HITCH DIMENSIONS AS TESTED—NO LOAD**

	inch	mm
A	30.3	770
B	15.7	400
C	20.7	525
D	19.1	485
E	8.3	210
F	12.2	310
G	36.4	925
H	2.0	50
I	17.7	450
J	24.2	615
K	21.8	554
L	47.2	1200
M	22.0	560
N	37.1	942
O	8.7	220
P	51.2	1300
Q	38.8	985
R	36.3	923